

Reply to Office Action of December 31, 2009

**ABSTRACT**

A porous film of the invention is a porous film having a large number of continuous micropores. The film has a thickness of 5 to 200  $\mu\text{m}$ , has an average surface pore size A of 0.01 to 10  $\mu\text{m}$ , an average surface porosity C, and has an average inside pore size B and an average inside porosity D. The ratio A/B of A to B is 0.3 to 3. The porous film is produced by casting a polymer solution containing a polymer onto a substrate to form a film and subjecting the film to phase conversion to thereby form a porous film. In the method, the polymer constituting the porous film has a surface tension Sa [mN/m], the substrate has a surface tension Sb [mN/m], and Sa and Sb satisfy the following condition:  $S_a - S_b \geq -10$ .